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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,742	12/30/2003	David A. Schleppenbach	7024-538	2719

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EXAMINER	
CHENG, JOE H	
ART UNIT	**PAPER NUMBER**
3713	

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

CS

Office Action Summary	Application No.	Applicant(s)	
	10/748,742	SCHLEPPENBACH ET AL.	
	Examiner	Art Unit	
	Joe H. Cheng	3713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2003 and 09 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *34-37 and 44-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *34-37 and 44-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/16/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. In response to the Preliminary Amendments filed on December 30, 2003 and July 9, 2004, claims 1-33, 38-43 and 48-63 have been cancelled and claims 34-37 and 44-47 are pending. In addition, applicant is informed that the publication of "NIH Grant Number 2 R44 EY06512-01, Final Report, "Electronic Braille Output Device Using Nitinol, Submitted by TiNi Alloy Co., Oakland, CA, February 9, 1990" cited in the Information Disclosure Statement filed on August 16, 2004 has not been considered by the Examiner, because CFR § 1.98 requirement is not met.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, all the claimed method steps of the claimed method must be shown or the feature(s) canceled from the claim(s). ***No*** new matter should be entered. Correction is required.

Specification

3. The disclosure is objected to because of the following informalities: The term "This application is a divisional application of U.S. patent application Serial No. 09/040,871, filed March 18, 1998 and claims the benefit of priority of U.S. provisional application Serial Nos. 60/040,518, filed march 18, 1997; 60/041,876, filed April 11, 1997; and 60/069,581, filed December 12, 1997." on page 1, line 1 should be recited as -- This application is divisional of patent application Serial No. 09/040,871, filed March 18, 1998, now U.S. Patent No. 6,705,868

B1, which claims the benefit of priority of U.S. provisional application Serial Nos. 60/040,518, filed march 18, 1997; 60/041,876, filed April 11, 1997; and 60/069,581, filed December 12, 1997.--, so as to clarify the status. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 34-37 and 44-47 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recitations of the claimed method steps have not been clearly described. In other word, the claimed method steps have not been clearly set forth, one ordinary skill in the art can not practice the invention as claimed without undue experimentation.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 34-37 and 44-47 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation therein is unclear and confusing, specifically,

the references for all the claimed method steps are unclear. In addition, what is the scope of the claimed method? Further, the preamble is unclear and indefinite, because it is not understood as to what the intended to claim method is being used for. Furthermore, it is not understood as to how can the shape-memory spring heating again and urging the projection of the pin move away from the rest position of the guide slot (as per claim 36). It is also not understood as to how to remove the spring from the chamber after permitting the spring outer diameter to grow to the inner diameter of the chamber and the spring length to grow to the length of the chamber (as per claim 46). Finally, it is further not understood as how the haptic display can holding the temperature for heating the chamber and spring to more than 400° C for more than 2 minutes (as per claim 44) or more than 90° C for less than 10 seconds (as per claim 45) and not hurt the user.

Claim Rejections - 35 USC § 103

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 34-37 and 44-47 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Tani et al (U.S. Pat. No. 5,449,292) in view of Torres-Isea (U.S. Pat. No. 5,107,235).

Regarding to claims 34-37, the broadly claimed structure can be interpreted as the tactile reading device of Tani et al. Figs. 1-14 of Tani et al broadly discloses the method of heating the shape-memory element (6) to urge the pin with a projection (3) toward a first position and within a rest of the guide slot (2), and cooling the shape-memory element to urge the projection away from the rest position which is different than the first position (see Fig.4). It is noted that the teaching of Tani et al does not specifically disclose the shape-memory element is a shape-memory spring (as per claim 34) or a coil spring (as per claim 44) as required. However, Fig. 1-5 of Torres-Isea broadly discloses that such feature of the shape-memory spring or spring (10) is old and well known. Hence, it would have been obvious to one of ordinary skill in the art to modify the method of Torres-Isea with the feature of the spring as taught by Torres-Isea as both Tani et al and Torres-Isea are directed to the method, so as to provide the memory spring of the tactile reading device. Further, it is noted that the teachings of Tani et al and Torres-Isea do not explicitly disclose the chamber and spring are heated more than about 400 degrees C. and less

than about 600 degrees C. for a period of more than about two minutes (as per claim 44) and heating the chamber and spring again to more than about 900 degrees C. for a period of less than about ten second (as per claim 47) as required. However, such limitations of the different heating temperatures and periods are old and well known and are considered an arbitrary obvious design choice, so as to change the shape of the memory spring.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Adnyanna et al (U.S. Pat. No. 4,619,320) - note Figs. 1-6D;

Ogawa et al (U.S. Pat. No. 4,633,121) - note Figs. 1-2C;

Masatoshi et al (U.S. Pat. No. 5,579,992) - note Figs. 1-49;

Parker (U.S. Pat. No. 5,717,423) - note Figs. 1-19;

Chen et al (U.S. Pat. No. 5,782,896) - note Figs. 1-19;

Schamberg et al (U.S. Pat. No. 6,224,755 B1) - note Figs. 1-9;

Okamoto (U.S. Pat. No. 6,696,185 B1) - note Figs. 1-25.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe H. Cheng whose telephone number is (571)272-4433. The examiner can normally be reached on Mon. - Thur..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571)272-7147. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joe H. Cheng
Primary Examiner
Art Unit 3713

Joe H. Cheng
November 24, 2004